

THE GENUS STENOPOGON LOEW IN THE UNITED STATES OF AMERICA (ASILIDÆ: DIPTERA)

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Since the appearance of my key to this genus in the *Annals of the Entomological Society of America*, Vol. XXIV, 2, June, 1931, I have examined a large amount of material which has resulted in the addition of nineteen new species. One of these—*S. kelloggi* was described by Mr. Joseph Wilcox. I have incorporated his description in this paper. I have further revised the key to include these new species and to elucidate relationships. I am particularly grateful to Mr. Joseph Wilcox, of Puyallup, Washington, for furnishing me material and many helpful suggestions and to Mr. E. C. Van Duzee, of the California Academy of Sciences, San Francisco, Calif., for loaning material from the Academy collection. I wish to thank also, Mr. E. S. Thomas, Curator of Natural History of the Ohio State Museum, Columbus, Ohio, for allowing me the study of the Hine collection.

Stenopogon contains many species from western North America. Only one species occurs east of the Mississippi. Most are rather elongate, small-headed Robber flies. In habits, they are ravenous, feeding on insects quite large in proportion to their size; some, as *S. obscuriventris*, *S. rufibarbis*, *S. timberlakei*, *S. gratus*, and *S. inquinatus*, preying extensively on honey-bees. In Texas, *S. latipennis*, is said by Mr. H. B. Parks to be destructive to the hive-bee, also. The species of *Stenopogon* themselves are likely to be preyed upon by more powerful asilids, particularly the fierce *Diogmites*, which are in turn frequently captured and killed by the large species of *Proctacanthus*.

The genus *Stenopogon* as here treated contains as a subgenus *Scleropogon* Loew. While some workers consider the two genera distinct, the species of both groups are so similar in most respects and the characters on which separation is based are so trivial that I do not think a split is justifiable.

Ospricerus Loew is closely related to *Stenopogon*. Separation of these two genera has been based largely on the length of the

third antennal segment and the fact that in *Ospriocerus* this segment usually lacks the terminal style. The latter character is however not tenable: *O. diversus* Williston has a minute style, while *O. eutrophus* Loew has a distinct demarkation at the tip of the third antennal segment. In *O. ventralis* Coquillett, the minute style is inset in the third antennal joint. The only stable character that I have found to satisfactorily separate the genera is the length of the third antennal segment. In all species of *Ospriocerus* that I have seen, the third antennal joint is three times the length of the first two together, quite appreciably longer than in any *Stenopogon* I have examined. On this basis, *Stenopogon nitens* Coquillett should rightfully belong in *Ospriocerus*. I have examined Coquillett's type at the National Museum and found that *S. nitens* Coq. is identical with my *Ospriocerus monki* (Jour. N. Y. Ent. Soc., XLII, p. 225, June, 1934). *Ospriocerus monki* Bromley therefore becomes a synonym of *Ospriocerus (Stenopogon) nitens* (Coq.).

GENOTYPE: *Asilus sabaudus* Fabricius, Entomol. System., IV, 385, 40 (1794). Central and South Europe.

KEY TO STENOPOGON SPECIES

- | | |
|--|------------------------|
| 1. "Hypopleura"* bare | 2 |
| "Hypopleura" with hair or bristles (subgenus <i>Scleropogon</i>) | 23 |
| 2. Very small species (10-13 mm.) (California); third antennal joint somewhat oval; arista short and bristle-like; wings short and narrow | 3 |
| Larger, more robust species; third antennal joint constricted apically; arista not so sharply differentiated | 4 |
| 3. Black species | <i>nigritulus</i> Coq. |
| Yellowish-brown species | <i>albibasis</i> Bigot |
| 4. Mystax at least partly black, usually entirely so or the upper half black .. | 5 |
| Mystax nearly, usually entirely, light-colored | 8 |
| 5. Mystax all black | 6 |
| Mystax partly light-colored | 7 |
| 6. Bloom of mesonotum pale gray; pile of front coxæ, fore femora, beard and post-genæ straw-colored; all tibiæ darkened at tip; genitalia slightly enlarged (16-26 mm.) (California) | <i>jubatus</i> Coq. |
| Bloom of mesonotum brown; a darker-colored species than <i>jubatus</i> with more black hairs and bristles, the posterior portion of the mesonotum | |

* The small calloused sclerite immediately anterior to the halteres. This plate is really the katapleurotergite of the postscutellum. It is the "hypopleura" of Beck, not Williston.

- bearing mostly black hairs; the pile of the front coxæ, fore femora, beard and post-genæ white (20-21 mm.) (California) *..jubatoides* n. sp.
7. *Mystax* black above, rest reddish-yellow (male); female with *mystax* mostly black; first two antennal joints together shorter than third; pile on sides of abdomen yellow; genitalia small, compact (18-20 mm.) (Mexico, Lower California) *stonei* n. sp.
- Mystax* black only in extreme upper portion, rest yellowish; hair along sides of abdomen whitish; abdomen black, shining; only female known (21-22 mm.) (California) *nigroverticellus* n. sp.
8. *Sternopleura* with a tuft of long fine pile; smaller species 9
Sternopleura without such a tuft although usually with some pile; large variable, robust species, with or without red on abdomen (20-37 mm.) (Western U. S.) (= *modestus* Loew and *morosus* Loew).
inquinatus Loew
9. Vestiture of thorax light-colored; hairs coarse; wings small 10
Some black hairs at least on dorsum of thorax; wings larger 12
10. Vestiture straw-colored 11
Vestiture of head and thorax reddish-yellow; male genitalia dark reddish, small, compact, forceps short not bent (16-19 mm.).
propinquus n. sp.
11. Male genitalia large, bulging, the upper appendages bent downward at tips, the lower bent upward at tips (15-22 mm.) (California).
breviusculus Loew
Male genitalia short, compact; abdomen shorter and stouter than in the case of *breviusculus* (16-21 mm.) (California). *breviusculoides* n. sp.
12. Dorsum of abdomen reddish or yellowish on most segments 21
Abdomen blackish on dorsum, except sometimes slightly reddish on last two segments (*obscuriventris* group) 13
13. Robust, unusually coarsely hairy species, particularly of thorax and base of abdomen, the hairs and bristles of which are thick, straw-yellow; all tibiæ blackish at apex (not so pronounced on first and second pairs in some females); male genitalia black, small, compact (22-24 mm.) (Coronado, California) *felis* Bromley
More slender and elongate species, not so coarsely hairy 14
14. Posterior aspect of middle femur, except extreme base, reddish-yellow; abdomen shining black, very sparsely gray pollinose;* male genitalia enlarged, black, pale-haired; posterior tibiæ blackish on distal portion; first two pairs of tibiæ entirely yellowish (21-27 mm.) (Southern California) *Wilcoxi* n. sp.
Posterior aspect of middle femur, except tip, black 15

* Throughout this paper, as well as in all my previous papers, the term "pollinose" is used in the same sense as that described by Curran in his Glossary of Terms used in Dipterology (The Families and Genera of North American Diptera, 1934, p. 489) and means "covered with 'dust' or 'bloom.'" The term does not imply a yellowish or any other color.

15. Vestiture of head, thorax, legs and base of abdomen largely reddish or reddish-yellow; pollen of abdomen brownish-gray16
 Vestiture of head, thorax, legs and base of abdomen straw-colored17
16. Male genitalia dark reddish, compact; all tibiae reddish; (18-23 mm.)
 (Calif., Wash., Ore., Utah)*rufibarbis* Bromley
 Male genitalia enlarged, black; hind tibiae blackish at extreme tip (18-26 mm.) (Calif.)*rufibarboides* n. sp.
17. Mesonotum more or less brownish pollinose18
 Mesonotum more grayish pollinose20
18. Abdomen largely shining black with a faint blue-gray bloom; many black hairs and bristles on posterior portion of mesonotum and scutellum; posterior tibia with the distal two-thirds black; male genitalia solid black with upper forceps turned downward at tip; a small dark colored species (15-17 mm.) (California)*engelhardti* n. sp.
 Abdomen either pale brown or yellow-gray pollinose19
19. Abdomen pale brown pollinose; all tibiae usually yellowish, occasionally the posterior darkened toward the tip; male genitalia compact, usually dark reddish to reddish-brown in color (16-26 mm.) (Western U. S.).
obscuriventris Loew
 Abdomen faintly and thinly pale yellow-gray pollinose; male genitalia small, black, compact; tips of tibiae dark brown or blackish, the first two pairs in the female not always darkened (19-23 mm.) (Southern Calif.)*andersoni* n. sp.
20. Gray pollinose; large elongate species; male genitalia black or very dark brown; tips of all tibiae darkened (22-27 mm.) (California).
timberlakei n. sp.
 Abdomen densely light gray pollinose, smaller species; male genitalia yellowish to yellowish-brown, compact; pollen of thorax generally slightly more brownish than that of abdomen; posterior half to quarter of hind tibiae blackish, others all yellowish (16-23 mm.) (Western U. S., Kansas to Calif.)*martini* n. sp.
21. Robust species; male largely reddish-haired, vestiture of female more straw-colored; usually only broad dorsal line of abdomen reddish, sides black (15-25 mm.) (Calif.)*gratus* Loew
 More slender species; light vestiture straw-colored22
22. Usually entire dorsum of abdomen reddish or yellowish; upper forceps of male genitalia from side-view with inner prongs extending beyond tip (15-27 mm.) (Calif.)*californiae* (Walker)
 Upper forceps of male genitalia from side-view with no prongs extending beyond tip (19-24 mm.) (Calif.)*californioides* n. sp.
23. Third antennal joint long; style short and compact; first posterior cell usually open24
 Third antennal joint shorter; style bristle-like32
24. Wings black; decidedly black species with red on abdomen, the latter not obscured by a grayish bloom, but the tip and base are black (14-20 mm.) (Kans., Colo., Nebr., Texas, Mont.)*aeacidinus* Williston

- Wings grayish, reddish or brownish, not deep black; reddish or blackish species, if the latter, the abdomen obscured by bloom 25
25. Blackish species, gray pollinose 26
 Reddish species 28
26. Short, stout species; wings gray with costal area yellowish-gray (14-17 mm.) (Texas, Kansas) *pumilus* Coq.
 Larger, more elongate species 27
27. Hairs on mesonotum all pale; wings gray subhyaline, pale brownish near veins; third segment of antenna narrowed toward tip and with a longitudinal seam on lower distal portion (21-25 mm.) (Arizona and New Mexico) *arizonensis* n. sp.
 Mesonotum with some black hairs on median dorsal area; wings uniformly grayish-brown; femora mostly blackish, the front with a reddish-yellow vitta on forward side (22-26 mm.) (Texas and New Mexico.)
**tenebrosus* Coq.
28. Elongate species 29
 Shorter, stouter species 30
29. Third antennal segment about as long as first two together; reddish-yellow species; abdomen quite slender, subpolished; wings broader than in next species, uniformly brownish or blackish (darkest in the specimens from the Southeastern U. S.); bristles and hairs of entire body sordid white, those on vertex and legs more yellowish (20-27 mm.) (Southeastern U. S. from N. Carolina to Texas and Colorado).
subulatus (Wiedemann)
- Third antennal segment almost twice as long as first two together, abdomen unusually slender; wings long and narrow; hairs and bristles yellowish; humeri, abdomen and legs light reddish-yellow; each femur with a basal black spot; thorax blackish, yellow pollinose; wings yellowish-gray (17-20 mm.) (Texas and New Mexico) *longulus* Loew
30. Thorax grayish-yellow pollinose 31
 Thorax reddish-yellow pollinose; rather large robust species; bristles of body golden; femora stout (18-21 mm.) (Texas, New Mexico, Colorado) *latipennis* Loew
31. Legs all pale reddish; some black bristles on hind femora, tibiae and vertex of head; small pale species (15-16 mm.) (Rio Grande Valley of Texas) *ebyi* n. sp.
 Black vitta on hind femora; hind femora and tibiae without black bristles; larger stouter species (15-19 mm.) (Nebraska, South Dakota, Colorado) *consanguineus* Loew
32. First posterior cell closed (occasional specimens of *indistinctus* n. sp. have this cell slightly open) 33
 First posterior cell wide open 42
33. Wholly and densely gray-white or white pollinose (the male white; the

* My previous *Stenopogon* keys, based on a misidentification of *tenebrosus*, do not run to this species correctly.

- female gray or pale yellowish); wings hyaline; a slender elongate species with small wings (15–20 mm.) (Texas) *cinerascens* Back
 Not densely white pollinose 34
34. Wings spotted with fuscous; large, yellow pollinose, robust Mexican species (20–30 mm.) *truquii* Bellardi
 Wings not spotted 35
35. Small, slender species; abdomen in male dull black, in female reddish above (19–20 mm.) (Arizona) *dispar* n. sp.
 Sexes similar; abdomen pollinose 36
36. Abdomen and legs entirely reddish-yellow; small species (15 mm.) (New Mexico and Arizona) *kelloggi* Wileox n. sp.
 Legs with some black and ground color of abdomen with some black, if only mid-dorsal line 37
37. Chamois leather-yellow species, the abdomen pale in ground color with only a mid-dorsal line of black (tergites with blackish anterior areas in *uhleri*) 40
 Abdomen with more black in ground color 38
38. Abdomen banded with black above, the segments black with posterior margins and venter red; yellowish-gray pollinose species (20–28 mm.) (Calif., Arizona, New Mexico) *picticornis* Loew
 Abdomen more pollinose, the black portions less conspicuous 39
39. Thorax grayish-yellow pollinose contrasting with abdomen which is grayish pollinose; ground color of abdomen more or less blackish; first antennal segment yellowish; a small rather robust species (15–19 mm.) (Montana, Nebraska, Colorado, Alberta) *coyote* Bromley
 Grayish-yellow pollinose species with abdomen and thorax not so contrasting; abdomen proportionately longer and more slender than *coyote*; the first posterior cell closed at margin or slightly open (19–26 mm.) (Arizona, Oklahoma) *indistinctus* n. sp.
40. "Hypopleura" with stout bristles 41
 "Hypopleura" with short, fine hair; antennæ black; wings hyaline; legs dark, some reddish on front and middle femora; male ventral plate divided at tip and lobes divergent (first and fourth posterior cells closed and petiolate (23 mm.) (Colorado) *uhleri* Banks
41. Style of antenna $\frac{1}{2}$ length of third joint (20–30 mm.) (Texas, Kansas, Nebraska) *helvolus* Loew
 Style equal in length to third joint (24 mm.) (Nebraska) *similis* Jones*
42. Brown and flesh-colored species, densely covered with gray and yellow pollen (20–23 mm.) (Mexico) *mexicanus* Cole
 Reddish or blackish species 43
43. Thorax reddish with black longitudinal lines on mesonotum; wings blackish, reddish toward base; reddish species (18–23 mm.) (Texas).
texanus Bromley
 Thorax mostly blackish, grayish or yellowish pollinose; wings more hyaline 44

* I have not seen this species, but infer from the original description that it should fit here.

44. Robust species; mesonotum gray pollinose45
 Slender, elongate species; thorax with pale yellow pollen; abdomen gray
 pollinose; genitalia reddish; antennæ all black (17-22 mm.) (New
 Mexico and Arizona) *duncani* n. sp.
45. Black species; abdomen mostly blackish (19-28 mm.) (Wyoming, Idaho,
 Colorado, Washington, Oregon, Utah) *neglectus* Bromley
 Black species; abdomen mostly reddish above (26-29 mm.) (California).
bradleyi n. sp.

I am unable to definitely separate *inquinatus* Loew, *morosus* Loew and *modestus* Loew and prefer, for the present, to consider them all as one variable species. The males are likely to have the abdomen reddish above and the front femora reddish below and anteriorly and are thus typical *inquinatus*. Then there are gradations from abdomen partially red (*morosus*) to blackish gray (*modestus*); *modestus* and *morosus* typically have the wings light grayish brown and the front femora largely, except the tip, blackish brown. In addition, there are some male specimens of *inquinatus*, *morosus* and *modestus* which have the wings more or less whitish. I can find no striking differences in the male genitalia. *Inquinatus* is evidently a widespread common species with varying color phases, as is exhibited in several other Dasypogonine forms, i. e., *Dizonias tristis*, *Sarapogon dispar*, *S. combustus*, *S. abbreviatus*, and *Microstylum morosum*.

***Stenopogon jubatooides* new species**

Total length, 20-21 mm. A dark-colored species closely related to *jubatus* Coquillett from which it may be distinguished by the general darker color, the posterior portion of the mesonotum bearing mostly black hairs, the bloom of the mesonotum brown, not pale gray, and the pile of the front coxæ, fore femora, beard, and post-genæ white, not straw-colored.

MALE. Face pale brown pruinose. Mystax and hairs of vertex black. Pile of occiput, post-genæ and beard white. Thorax with brownish bloom; most of hairs of dorsal and posterior portions of mesonotum and scutellum black, a few whitish hairs on sides. Legs black; tips of femora, basal fourth of tibiæ and tarsal segments, except extreme tips, pale reddish-yellow. Hairs of front coxæ and fine pile on femora white. Wings with bases milky-white, elsewhere gray subhyaline, the venation accentuated with pale brownish. Abdomen shining black with fine white hairs along sides, mid-dorsal line with blackish hairs. Genitalia black with some brownish and some white hairs.

FEMALE. Similar, ovipositor with pale brown bristles.

Holotype, male, Mt. Diablo, Calif., July 21, 1935 (Jack Beamer) [Kans. Univ. Coll.]. Allotopotype, female, same data. Paratopotype, same data.

Stenopogon Stonei new species

Total length, 18–20 mm. A black species related to *jubatus* Coq., with the mystax black above and reddish-yellow below in the male; the mystax of the female mostly black, the first two antennal joints together shorter than the third; the pile on the sides of the abdomen yellow; the wings smoky-brown, the anal angle white in the male.

MALE. Face gray pollinose. Mystax (lower $\frac{3}{4}$ ths), beard and hairs of occiput reddish-yellow. Hairs of upper mystax, antennæ and vertex black. Thorax brown pollinose, mesonotum above with black lines bearing black hairs. Sides of mesonotum, the pleura and coxæ with golden hairs and bristles. Legs with golden hairs and bristles. Femora black with apices reddish; tibiæ reddish with black tips; tarsi and bases of claws reddish, the posterior tarsi with black tips to the segments. Wings smoky-brown, with anal angle whitish. Abdomen slender, black, shining, with golden hairs. Genitalia compact, black, with golden and some black hairs.

FEMALE. Similar, except mystax mostly black and abdomen lightly gray-brown pollinose.

Holotype, male, Ensenada, Mex., July 5, 1930 (M. W. Stone). Allotype, female, same data. Paratopotype, male, same data. [J. Wilcox Coll.]. This species was named in honor of the collector, Mr. M. W. Stone.

Stenopogon nigriverticellus new species

Total length, 21–22 mm. A black species related to *jubatus* Coq., differing in having the mystax, except the upper portion, yellow. The abdomen is shining black with whitish hairs along the sides.

FEMALE. Face grayish-yellow pollinose. Beard and mystax straw-colored. Upper portion of mystax, antennæ and vertex with black hairs. Occipital hairs sordid straw-colored. Thorax black, shining above, with scattered patches of gray pollen. Hairs on median area of mesonotum black; rest of thoracic vestiture pale straw-colored. Legs with whitish hairs and straw-colored bristles. Femora black with pale reddish tips; tibiæ pale reddish, extreme apices blackish except posterior pair, the distal half of which are black. Wings smoky subhyaline. Abdomen shining black with sordid whitish hairs.

Holotype, female, San Diego, Calif., July 7, 1929 (L. D. Anderson). Paratopotype, female, same data [J. Wilcox Coll.].

Stenopogon propinquus new species

Total length, 16–19 mm. A black species, reddish-yellow hirsute and pollinose, closely related to *breviusculus* Loew from which it is distinguished by the more reddish color of the hairs and the short, compact genitalia.

MALE. Face yellow-gray pollinose. Vestiture of head abundant, reddish-yellow. Thorax black, reddish-yellow pollinose with concolorous thickly set

reddish-yellow hairs. Wings hyaline. Legs reddish; femora black above and distal half of hind tibiæ dark reddish-brown. Hairs and bristles of legs, reddish-yellow. Claws black with red bases. Abdomen reddish with reddish hairs; tops of first four segments blackish anteriorly. Genitalia dark reddish, small, compact.

Holotype, male, Pete's Butte, July 10, 1930 (Robert L. West). Allotype, female, San Diego Co., Calif., April 13, 1914 (E. P. Van Duzee). Paratopotypes, 2 males, Pete's Butte, July 10, 1930 (Robert L. West) [J. Wilcox Coll.]. Paratypes, 2 males, 1 female, San Diego Co., Calif., June 21, 1914, August 15, 1913, April 13, 1914 (E. P. Van Duzee); 1 male, 1 female, Mok. H. Calif., June 6, 1896 (F. E. Blaisdell); male, Milbrae, San Mateo Co., Calif., Sept. 1, 1912 (F. E. Blaisdell) [Calif. Acad. Sci. Coll.].

***Stenopogon brevisculoides* new species**

Total length, 16-21 mm. A yellowish pollinose, yellowish haired species very similar to *breviusculus* Loew, but distinguished therefrom by the shorter stouter abdomen and the entirely different male genitalia.

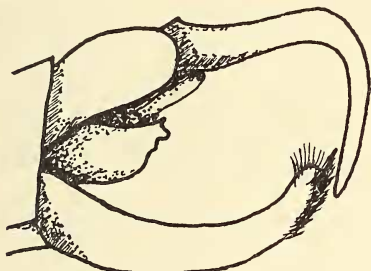


FIG. 1. Male genitalia of *breviusculus*.

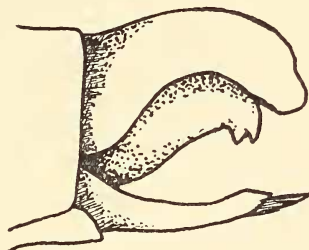


FIG. 2. Male genitalia of *breviusculoides*.

MALE. Head gray-white pollinose; vestiture straw-colored. First two antennal joints reddish-brown, third blackish-brown. Thorax yellow-brown pollinose, vestiture concolorous. Mesonotum with three dark lines. Wings hyaline. Legs yellowish-brown with concolorous hairs and bristles; upper surfaces of femora and outer aspect of hind tibiæ blackish. Abdomen comparatively shorter than in the case of *breviusculus*, yellowish-brown pollinose with concolorous vestiture. Ground color of abdomen blackish and reddish. Genitalia short, rather compact, upper forceps reddish.

FEMALE. Similar; ovipositor with reddish-brown bristles.

Holotype, male, Monterey, Calif., July 22, 1935 (Jean Russell). Allotopotype, female, same data. Paratopotypes, 2 males, 3

females, same data. Paratypes, 3 males, 5 females, Cuyama Ranch, Calif., July 25, 1935 (E. I. Beamer, R. H. Beamer, Jean Russell). Holotype and allotype in Kans. Univ. Coll., other types in Coll's. of S. W. Bromley, J. Wilcox and Univ. Kans.

***Stenopogon wilcoxi* new species**

Total length, 21–27 mm. An elongate black species of the *obscuriventris* group with the bases and posterior part of the wings in the male broadly whitish, unique in having the posterior aspect of the middle femora (except the extreme base) reddish-yellow. The abdomen is only sparsely gray pollinose, less so in the male where it is largely shining black. The male genitalia is somewhat larger than in *obscuriventris*, is shining black, but pale haired. The first two pairs of tibiae are entirely yellowish while the posterior is blackish on the distal portion.

MALE. Face gray pollinose. Vestiture of head, except the fine black hairs of antennae and vertex, pale straw-colored. Thorax with pale straw-colored pollen and fine hairs, except the fine black hairs along mid-dorsal area of mesonotum. Wings hyaline; anal angle and posterior base whitish. Legs with straw-colored hairs and pale reddish bristles; tarsi with a few black bristles. Legs reddish, the basal portions two thirds to three quarters of the femora black, except the posterior aspect of the middle femur which is largely reddish-yellow with the extreme base black. Tibiae and tarsi reddish-yellow, except tip of posterior tibia which is black and the tips of the posterior tarsal segments which are blackish. Abdomen elongate, shining black, with straw-colored hairs. The genitalia are blackish, rather large and bulging; the upper appendages curved inward and downward at tip, the lower turned up.

FEMALE. Similar, but the wings gray subhyaline and the abdomen more gray pollinose.

Holotype, male, San Diego Co., Calif., July 7, 1929 (R. H. Beamer). Allotype, female, same data. Paratopotypes, 4 males, 6 females, same data (P. W. Oman). Paratypes, 1 male, 2 females, San Jacinto Mts., Calif., July 21, 1929 (L. D. Anderson); 2 females, Laguna Mts., Calif., July 6, 1929 (L. D. Anderson and P. W. Oman) [Kans. Univ. Coll.]; 1 female, Cajon Pass, Calif., August 22, 1931 (C. H. Martin); 1 male, Pine Valley, San Diego Co., Calif. (W. J. Chamberlain) [Hine Coll.]; 2 males, 2 females, Warners, San Diego Co., Calif., July 26, 27, August 1 and 2, 1921 (James) [Colo. State College Coll.]; 6 males, 5 females, Campo, Calif., August 10, 1935 (Jean Russell and Jack Beamer), 4 males, 12 females, Idyllwild, Calif., August 3, 1935 (Jean Russell), 1 male, Anza, Calif., Aug. 6, 1935 (Jack Beamer),

4 females, Jacumba, Calif., Aug. 12, 1935 (Jack Beamer) [Univ. Kans. Coll.]; 1 male, Tahquitz Canyon, Riverside Co., Calif., June 27, 1928 (E. C. Van Dyke), 2 males, 4 females, Idlewild, Calif., June 29, 1928, July 5, 1928 (E. C. Van Dyke) [Calif. Acad. Sci.].

This species was named in honor of Mr. Joseph Wilcox, of Puyallup, Wash., who has been very much interested in the Asilidae.

***Stenopogon rufibaroides* new species**

Total length, 18-26 mm. Closely related to *rufibarbis* Bromley, but differs in having the male genitalia larger and shining black, not dark reddish.

MALE. Face gray pollinose. Vestiture of head reddish, except hairs of vertex which are blackish. Thorax black with a shining black median stripe. Mesonotum reddish-brown pollinose above, pleura gray pollinose. Wings pale brown subhyaline with anal angles whitish; base of costa with reddish-gold hairs. Coxæ and mesonotum with reddish hairs except those on median line which are black. Scutellars mostly reddish, a few black. Legs reddish-yellow with concolorous hairs and bristles; femora, except tips, black; hind tibiæ blackish at extreme tips. Abdomen elongate, slender, shining black, the incisures gray pollinose, the hairs red. Genitalia shining black with reddish hairs, enlarged and bulging, with upper appendages curving inward and downward at tip.

FEMALE. Similar, but wings all gray subhyaline, the abdomen with pollen more gray-brownish than in male. One or two black bristles in upper portion of mystax. Most of the reddish vestiture is paler than in the male.

Holotype, male, Sequoia Nat'l Park, Potwisha, Calif., 2000-5000 ft. alt., May 20, 1929. Allotopotype, female, same data (E. C. Van Dyke). Paratopotypes, 3 males, 4 females, May 12-29, 1929 (Calif. Acad. Sci.). Paratypes, 2 females, San Diego, Calif., Aug. 7, 1935 (Jean Russell) [Kans. Univ. Coll.].

***Stenopogon engelhardtii* new species**

Total length, 15-17 mm. A small, rather dark-colored species closely related to *obscuriventris* Loew, but differs in having more black hairs and bristles on the posterior portion of the mesonotum and scutellum, the abdomen largely shining black with a faint blue-gray bloom, the posterior tibiæ with the distal two thirds black, and the male genitalia solid black with the upper forceps turned downward at the tip.

MALE. Vestiture of head golden straw-colored, except hairs of vertex which are black. Thorax shining black, with brownish pollen here and there, most of the bristles of mesonotum and scutellum black. Hairs of pleura and

coxae pale golden. Legs black except tips of femora and the tarsi and tibiae with the exception of the posterior tibiae, which have the distal two thirds black, entirely reddish. Femora with fine whitish pile. Wings fumose, the extreme base and anal angle milky-white. Abdomen shining black with fine scattered whitish pile and indistinct light blue-gray bloom. Genitalia small, compact, shining black, the tips of the upper forceps turned downward.

FEMALE. Similar, but scutellum with several pale bristles in addition to the black. Wings paler and without white areas. Ovipositor with dark brown spines.

Holotype, male, Jacumba, Calif., April 26, 1935 (G. P. Engelhardt). Allotopotype, same data. [J. Wilcox Coll.].

This species is named in honor of the collector, Mr. G. P. Engelhardt.

***Stenopogon andersoni* new species**

Total length, 19–23 mm. Closely related to *obscuriventris* Loew, differing in having the tips of the tibiae usually dark brown or blackish (the first two pairs in the female not always darkened), the abdomen having less pollen and that which is present of a yellow-gray color instead of pale brown, and the genitalia of the male smaller, more compact and black.

MALE. Face yellow-gray pollinose. Vestiture of head straw-colored. Thorax pale yellowish brown pollinose, vestiture straw-colored, a few black hairs on median line of mesonotum. Scutellum with pale straw-colored bristles. Legs with hair and bristles straw-colored. Wings gray subhyaline, very pale yellow-brown along vein margins, anal angle whitish. Femora, except apices, black; tips of tibiae black; tips of segments of posterior tarsi black; rest of legs yellowish. Abdomen elongate, slender, dull black, sparsely gray-yellow pollinose with pale straw-colored hairs. Genitalia small, black, compact.

FEMALE. Similar, the abdomen more densely yellow-gray pollinose and anal angles of wings not decidedly whitish.

Holotype, male, San Jacinto Mts., Calif., July 21, 1929 (L. D. Anderson). Allotopotype, female, San Jacinto Mts., July 21, 1929. [J. Wilcox Coll.]. Paratopotypes, 2 males, same data; 1 female, June 30, 1933 (R. H. Beamer). Paratype, 1 male, Cuyama Ranch, Calif., July 25, 1935 (Jean Russell) [Kans. Univ. Coll.]. This species was named in honor of the collector, Mr. L. D. Anderson.

***Stenopogon timberlakei* new species**

Total length, 22–27 mm. A light gray pollinose elongate species of the *obscuriventris* group, having the male genitalia blackish, the tibiae yellow with tips black.

MALE. Vestiture of head pale straw-colored. Thorax gray pollinose with pale straw-colored hairs, some black along median line of mesonotum. Wings gray subhyaline, anal angles white. Legs with straw-colored hairs and pollen, the tarsi yellow, the tibiæ yellow with black tips, the femora black with yellow tips. Abdomen elongate, black, gray pollinose. Genitalia black; in two of the paratypes dark reddish-brown.

FEMALE. Similar, anal angles of wings not white.

Holotype, male, Brentwood, Calif., June 12, 1925 (S. W. Bromley). Allotype, female, same data. Paratopotypes, 2 males, 3 females, same data. [S. W. Bromley Coll.]. Paratypes, 1 female, Saltdale, Calif., June 19, 1932 (A. T. McClay) [J. Wilcox Coll.]; male, Jacintos Barranca, Kettleman Plains, Fresno Co., Calif., June 4, 1907 (Bradley); male, Coalunga, Fresno Co., Calif., June 9, 1907, elev. 500 ft. (Bradley); male, Buena Vista Reservoir, Calif., April 27, 1917 [Hine Coll.].

Two of the Brentwood specimens were taken with prey: a honeybee and a Pentatomid bug. This species was named in honor of Mr. P. H. Timberlake of the Riverside Experimental Station who first called this species to my attention.

Stenopogon martini new species

Total length, 16-23 mm. A pale gray pollinose species related to *obscuriventris* Loew. The abdomen is densely light gray pollinose, the male genitalia compact, yellowish to yellowish-brown, the pollen of thorax slightly more yellowish or brownish than that of abdomen. The tibiæ are yellowish, except the posterior which has the distal quarter to half black.

MALE. Black; head gray pollinose. Vestiture pale straw-colored. Thorax yellowish or pale brownish gray pollinose, the disc of mesonotum pure gray pollinose. Mesonotum with a median blackish divided line. Vestiture of thorax and legs pale straw-colored; except some black hairs on disc of mesonotum. Legs reddish-yellow, the femora except tips, black; the posterior tibia with distal half blackish. Wings subhyaline, pale brown along veins, anal angle whitish. Abdomen black, gray pollinose with sordid white hairs. Genitalia compact, yellowish-red.

FEMALE. Similar, except anal angle of wings not white, and hind tibia black on only distal quarter. The abdomen more densely gray pollinose.

Holotype, male, Parma, Idaho, May 13, 1934 (C. H. Martin). Allotopotype, female, same data. Paratopotypes, 17 males, 18 females, same data. Paratypes; 3 males, Klamath Indian Reservation, Bly Mts., Ore., June 23, 1933 (G. P. Engelhardt); 1 male, Hermiston, Ore., May 10, 1930 (H. A. Scullen); 1 male, "P"

Ranch, Harney Co., Ore., June 27, 1922 (W. J. Chamberlain); 1 male, 1 female, Jefferson Co., Mont., July 8, 1924 (E24-38); 1 male, 1 female, Vantage, Wash., May 20, 1932 (Wm. W. Baker); 1 male, 2 females, Durango, Colo., May 31, 1899; 1 male, 2 females, Havilah, Calif., May 16, 1930 [J. Wilcox Coll.]; 2 males, 2 females, Florrisant, Colo., June 22, 1908 (Rob.); 2 males, 1 female, Creede, Colo., 8844 ft. alt., Aug. 1914 (S. J. Hunter); 1 male, 1 female, Jefferson Co., Colo., June 26, 1913 (A. K. Fisher); 1 female, Douglas Co., Kans., 900 ft. alt. (F. H. Snow) feeding on winged ant (*Camponotus* sp.); 1 male, Las Cruces, N. M., May (Cockerell); 1 female, Reno, Nev., June 23, 1890 (F. H. Hellman); 4 males, 5 females, near Leander, Wyo., 5000-8000 ft. alt., Aug. (Roy Moodie); 1 female, Yellowstone Nat'l Park, June 24, 1930; 1 female, Kennewick, Wash., May 20, 1921 (A. L. Melander); 1 male, 1 female, Kern Co., Calif. [Hine Coll.]; 2 females, Bridgeport, Mono Co., Calif., June 23, 1929, and Mint Canyon, 6 miles west of Palmdale, Calif., Apr. 20, 1932 (E. P. Van Duzee) [Calif. Acad. Sci.]. This species was named in honor of the collector, Mr. C. H. Martin.

***Stenopogon californioides* new species**

Total length, 19-24 mm. A slender species closely related to *californica* Walker from which it may be distinguished by the structure of the male genitalia. I am unable to give any characters which may definitely distinguish the females.

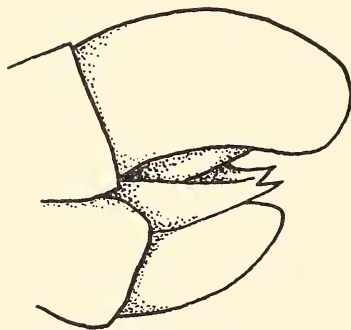


FIG. 3. Male Genitalia of *californioides*, side view.

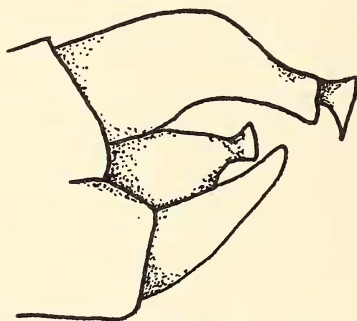


FIG. 4. Male Genitalia of *californica*, side view.

MALE. Head black, gray-brown pollinose. Antennæ blackish, junction of segments paler. Vestiture of head yellowish. Thorax black with pale brown-

ish-yellow bloom. Vestiture yellowish, hairs along mid-dorsal area of mesonotum black. Legs reddish-yellow, femora with black area in upper and inner portion of first four femora. Hind femora blackish on basal $\frac{3}{4}$ ths. Wings pale brown subhyaline, basal portion, particularly anal angles, milky-white. Abdomen slender, reddish above; sides and parts of first two tergites blackish. Genitalia blackish, apical prongs of hypandrium about $\frac{1}{2}$ length of base.

FEMALE. Similar. Tips of hind tibiæ blackish; wings gray subhyaline. Tip of abdomen black. An occasional black hair in upper portion of mystax.

Holotype, male, Lockwood, Calif., July 24, 1935 (E. I. Beamer). Allotopotype, female, same data (Jean Russell). Paratopotypes, 7 males, 15 females, same data (E. I. Beamer, Jack Beamer, Jean Russell). Types in S. W. Bromley Coll., J. Wilcox Coll., and Univ. Kans. Coll.

Stenopogon arizonensis new species

Total length, 21-25 mm. A black species, gray pollinose, related to *tenebrosus* Coq., from which it differs in having the hairs of the mesonotum all pale and the wings are gray subhyaline, pale brownish along veins. The 3rd antennal segment is narrowed toward the tip and bears a longitudinal seam on the lower distal portion.

MALE. Antennæ long, black. Face yellow gray pollinose. Vestiture of head all whitish or straw-colored. Thorax black; gray yellow pollinose; humeri red. Vestiture of thorax and legs sordid whitish. Legs largely black, the articulations, tarsi, and a vitta on the upper inner portion of the front femora chestnut brown. Abdomen black, solid gray pollinose; incisures gray-brown (in two of the paratypes the incisures are broadly reddish-brown). Genitalia compact, narrower than the 7th segment, black in the holotype, reddish-brown in some of the paratypes. Wings gray subhyaline.

FEMALE. Similar.

Holotype, male, Albuquerque, N. M., June 27, 1931, 5000 ft. alt., (Don Prentiss). Allotopotype, female, same data (H. A. Scullen). Paratypes: male, Phoenix, Ariz., Aug. (D. K. Duncan); male, Tempe, Ariz., July (D. K. Duncan); female, Belan, N. M., Aug. 19, 1927 (L. D. Anderson) [J. Wilcox Coll.].

Stenopogon ebyi new species

Total length, 15-16 mm. A small, pale reddish-yellow species, related to *consanguineus* Loew from which it may be distinguished by the smaller size, the more slender build, the entirely pale reddish legs with no black vitta on the hind femora, the black bristles of the hind femora and tibiæ (all reddish in *consanguineus*) and the black bristles of vertex.

FEMALE. Vestiture of head pale straw-colored except the bristles of vertex, which are black, and the antennal bristles, which are dark brown. Thorax

pale chamois-yellow pollinose; all hairs and bristles whitish. Viewed from above the mesonotum with a divided median brown line on the anterior portion, curved back immediately above each humerus. An indistinct brown line on each side of this median line. Scutellum with whitish marginal bristles. Legs pale reddish with mostly black bristles on hind legs; some white bristles in addition to black on first two pairs of legs. Halteres pale reddish-brown. Wings grayish-brown, the veins towards base and their margins somewhat yellowish-red. Abdomen pale reddish-yellow, sides of segments 6 and 7, blackish.

Holotype, female, Cameron Co., Tex., June 30, 1933. Allotopotype, female, same data. Paratopotype, ♀, same data. (All collected by S. W. Bromley and Wayne Eby, in whose honor the species is named.) [S. W. Bromley Coll.] Paratypes, two females, Brownsville, Texas, April 12–May 20 (Dury) [Hine Coll.].

***Stenopogon dispar* new species**

Total length, 19–20 mm. A rather small, slender species of the *Scleropogon* group with the "hypopleura" hairy, the first posterior cell closed and petiolate, the abdomen of the male entirely dull black, that of the female largely reddish above. The antennal style is bristle-like. The dorsum of the abdomen is not pollinose, but the thorax has a distinctly gray bloom. The legs are largely black with the upper inner aspect of the fore femora largely reddish-yellow.

MALE. Antennæ dark brown. Head with gray bloom. Mystax, palpal hairs and beard sordid whitish. Occiput and vertex with blackish-brown hairs and bristles. Thorax black with gray bloom. Humeri reddish. Mesonotum with black hairs and bristles. Scutellum with six stout black marginal bristles. Pleura partly reddish in ground color. Coxæ with sordid whitish bristles and hairs. Legs black, the bases of tibiæ, under sides of femora and bases of tarsal segments faintly reddish-yellow, very obscure in case of femora. The inner upper portion of fore femora and inner aspect of fore tibiæ reddish. Wings gray subhyaline, the anal angle milky whitish, the first posterior cell closed and petiolate. Abdomen dull black with fine scattered black hairs above and sides with a grayish-white bloom. Genitalia black with black hairs.

FEMALE. Similar, but with hairs and bristles of occiput pale yellowish and with the dorsum of the abdomen reddish. The wings are uniformly gray subhyaline, and the posterior portion of the mesonotum bears some white bristles while those of the scutellum are whitish.

Holotype, male, Patagonia, Ariz., Aug. 21, 1935 (E. I. Beamer). Allotopotype, female, same data (R. H. Beamer) [Kans. Univ. Coll.].

Stenopogon kelloggi Wilcox new species

“MALE. Length 13 mm. Head black in ground color, densely pollinose, the pollen on the occiput grayish; palpi and proboscis shining black, hairs and bristles yellowish white. First antennal joint yellowish red, $1\frac{1}{2}$ times as long as second; second joint brown; first two joints with short yellow hairs; third joint and style black, third joint $1\frac{1}{4}$ times as long as first two joints together; style two-jointed, slender, one-third as long as third joint, with a minute bristle at tip. Thorax brown in ground color; humeri reddish; densely pollinose, as are coxæ; bristles yellowish-white; hypopleura bearing short bristle-like hairs. Abdomen yellowish red in ground color, except sides of first and second segments and narrowly sides of remaining segments which are black; densely pollinose; hairs and bristles yellowish white. Genitalia shining yellowish red, hypandrium emarginate at apex, the two lobes slightly divergent and slightly longer than broad. Legs entirely shining yellowish-red except for a narrow black marginal line on trochanters; claws black, narrowly yellowish at base. Halteres entirely yellowish red. Wings pale yellowish; veins yellowish red but becoming brown apically; costal fringe of spinelike hairs black beyond humeral cross vein; first and fourth posterior cells closed and petiolate, petioles about twice as long as anterior cross vein; anterior cross vein at one-third the length of the discal cell.

“FEMALE. Length 13 mm. Similar to male. Pollen of head and thorax more gray than yellowish. Apical part of sixth and remaining segments of abdomen shining yellowish red, apical spines reddish.

“*Types*. Holotype male and allotype female; Silver City, N. M., IX-16, '32 (R. T. Kellogg); in Wilcox collection.

“*Paratypes*: 47 specimens, both sexes, from type locality, X-25 and 26, '35 (R. T. Kellogg) and from Grant County, N. M., IX-24, '33 (R. T. Kellogg); and base of Pinal Mts., Gila County, Ariz., October (D. K. Duncan).

“This species is close to *coyote* Bromley, but is quite distinct from that species, in which the abdomen and legs are largely black in ground color, the first posterior cell but barely closed at the wing margin, the petiole of the fourth posterior cell shorter than the anterior cross-vein, and the fourth posterior cell large, two-thirds the length of the discal cell, while in *kelloggi* it is but half the length of the discal cell. *S. kelloggi* is smaller and is taken 2 or 3 months later in the season. The hypandria of the two species are similar.”

Stenopogon duncani new species

Total length, 17-22 mm. An elongate slender species with pale yellow pollen on thorax and abdomen gray pollinose. The genitalia reddish-yellow.

MALE. Antennæ black. Face yellow-gray pollinose. Vestiture of head straw-colored. Thorax black, humeri reddish. Vestiture of thorax, coxæ and legs pale straw-colored; mesonotum with sordid yellow pollen; pleura with gray-yellow pollen. Wings hyaline with a very faint brown tint. Legs reddish-brown, the first two pairs of femora with a large black vitta above, the posterior black and the posterior tibia, except extreme base, black. Abdomen black, elongate, slender, thickly gray pollinose, ground color of incisures reddish-brown under the pollen. Genitalia compact, reddish.

FEMALE. Similar, except hind femora largely reddish below.

Holotype, male, Silver City, N. M., June 24, 1933 (R. T. Kellogg). Allotopotype, female, Silver City, N. M., June 18, 1933 (R. T. Kellogg). Paratopotype, 2 males, Silver City, N. M., June 24, 1933 (R. T. Kellogg). Paratypes: 1 female, Chiricahua Mts., Ariz., June (D. K. Duncan) (No. 30); 1 male, Beck Hall, Cambray, N. M., June, 1931; 1 female, Ajo, Ariz., Aug. 26, 1927 (J. C. Bradley); 1 female, Florence, Ariz., June 24, 1932 (D. K. Duncan); 1 female, Tempe, Ariz. (D. K. Duncan); 1 male, 1 female, Ariz., C.U. Lot 35 [J. Wilcox Coll.]; 1 female, Clark Val., Colo. Desert, Calif., May 2, 1932 (H. G.) [Calif. Acad. Sci. Coll.].

This species was named in honor of Mr. D. K. Duncan, of Globe, Arizona, who is an active collector of Asilids.

Stenopogon indistinctus new species

Total length, 19–26 mm. A grayish-yellow pollinose species with the first posterior cell closed at the margin or slightly open, related to both *helvolus* Loew and *coyote* Bromley. From the former it may be distinguished by the ground color of the abdomen being more largely blackish and from *coyote* by the larger size, proportionally longer and more slender abdomen, and the color of the posterior aspect of the middle femora which in *indistinctus* are largely reddish-yellow while in *coyote* the black of the upper portion extends at least half-way down on the posterior aspect.

MALE. Head gray pollinose, vestiture straw-colored, becoming darker on occiput and pale orange-brown on vertex. Antennæ black with basal joint largely reddish. Thorax gray-yellow pollinose. The median dorsal marking of the mesonotum blackish and divided longitudinally by a pale line. Vestiture of thorax including scutellum straw-colored. Wings short, hyaline, the first posterior cell closed slightly before or at the margin. Legs reddish-yellow with yellow hairs and bristles, the dorsal aspect of the femora and tibiae blackish. Abdomen elongate, less robust than in *coyote*, with considerable black in the ground color, with a grayish-yellow bloom and slightly lighter colored fine hairs. Genitalia reddish with straw-colored hairs.

FEMALE. Similar, the first posterior cell more inclined to be open than in male. Ground color of abdomen, black and reddish.

Holotype, male, White Mts., Ariz., Aug. 1930 (D. K. Duncan). Allotopotype, female, same data. Paratopotypes, 2 males, 8 females, same data. [J. Wilcox Coll.]. Paratypes: 1 male, 4 females, Concho, Ariz., Aug. 18, 1934 (A. E. Pritchard); 1 male, 2 females, Kenton, Okla., June 27, 1933 (A. E. Pritchard) [A. E. Pritchard Coll.].

***Stenopogon bradleyi* new species**

Total length, 26–29 mm. Related to *neglectus* Bromley from which it may be distinguished by the dull reddish abdomen.

MALE. Face grayish-white pollinose. Vestiture of head pale straw-colored except hairs of vertex which are dark brown. Thorax black except humeri and posterior calli which are deep reddish. Hairs and bristles of thorax, coxæ, and legs pale straw-colored, except fine hairs on mesonotum which are black, and several stout bristles on humeri, dark brown. The thorax is gray pollinose above; yellowish gray pollinose on sides. Scutellum largely dull reddish, covered with gray-yellow pollen. Legs reddish-brown, the femora with a large black vitta, one on the anterior femora on the upper caudal aspect, one on the middle femora on the forward upper side, one on the posterior femora covering largely the anterior and dorsal portions. Wings pale brown subhyaline. Abdomen dull reddish with fine short straw-colored hairs and grayish-yellow sparse pollen, thicker along sides. Genitalia reddish.

FEMALE. Similar, but the bristles on the humeri are sordid yellow instead of dark brown.

Holotype, male, Grant Forest, Calif. (6400–7000 ft. alt.) Aug. 9–13, 1927 (J. C. Bradley Coll.). Allotopotype, female, on same pin. (Evidently taken in coitu.)

This species was named in honor of the collector, Professor J. C. Bradley, of Cornell University.